

Data Center Transformation



DTS 2011
Meeting Departmental and Constituent
Expectations



The Shape of the Future

- IT as a Utility
 - 24x “forever” expectation
 - Emerging Issue of e-Discovery
- Mission Critical and Life Support Applications on the horizon
 - Constituents expectation of 500-800 online services (state employees too).
 - Health IT
 - Voice over IP
- Price/Performance improvement demands



DTS Today.....

- Hosting
 - Standalone application implementations
 - Shared environments limited
- Availability
 - 98.5% for weekday primary shift
 - 95% for nights and weekends
 - Demand for higher availability and cost reductions
- DR
 - 17 out of thousands of applications
 - Computing Sites in the same flood plain



DTS Today....

- Multiple number of platforms with various operating systems
 - 100 AIX Production Servers
 - 800 Windows Production Servers
 - 100 Solaris Production Servers
- Thousands of Customer housed applications and databases across multiple platforms
- Existing architecture poses a challenge to providing High Availability (>99%) guarantees
 - High Availability – addresses component to site failure
- Over 250 customers at risk of an extended outage if DTS experiences a disaster



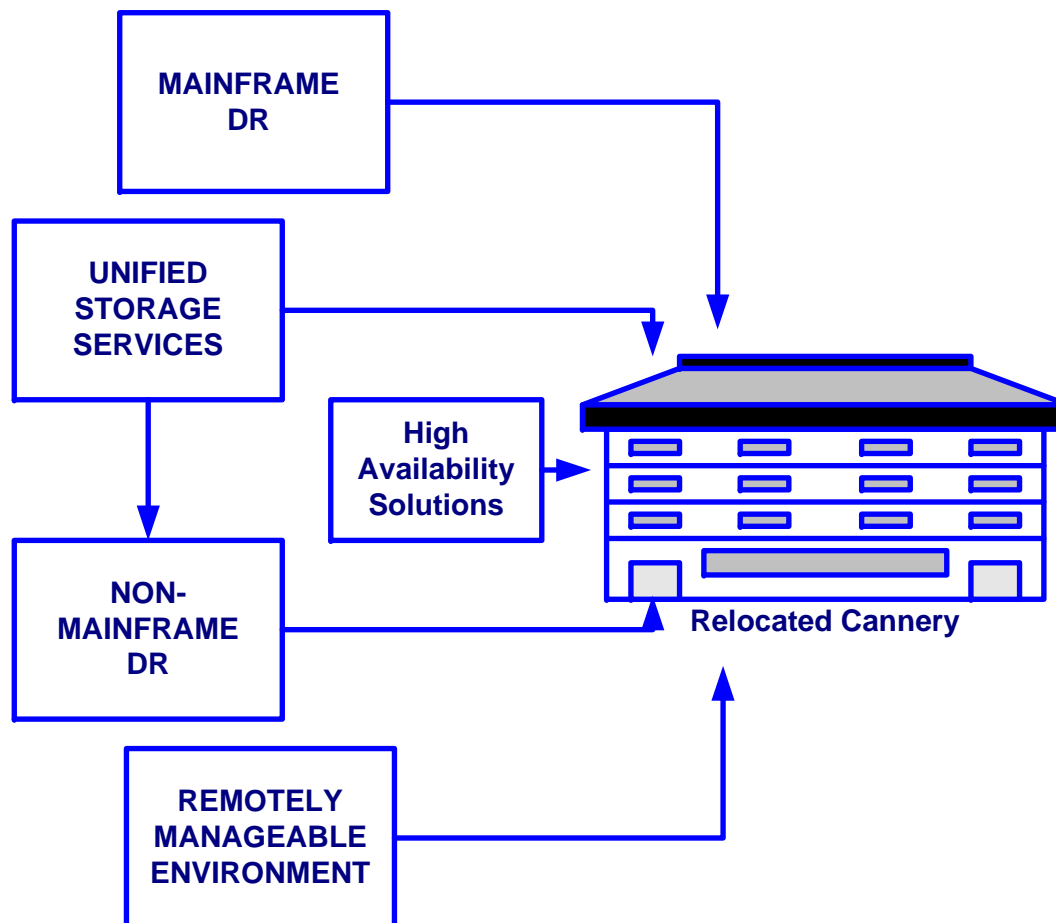
Availability – The Critical Issue for DTS

- Cost versus Performance

	Annual Outage	Monthly Outage	Weekly Outage	Cost
95%	18.25 Days	36 Hours	8.4 Hours	Current Rates
98.5%	7.3 Days	14.4 Hours	3.4 Hours	Current Rates
99%	3.7 Days	7.2 Hours	1.7 Hours	2x-4x
99.9%	8.8 Hours	43 Minutes	10 Minutes	2x-4x
99.99%	53 Minutes	4.3 Minutes	1 Minute	2x-4x



Getting to 2011





Mainframe Disaster Recovery

- Approved and in development
- Value
 - 4 to 8 hour recovery for all applications and data
 - Customer recovery planning is simplified
 - Reduced complexity of operations
 - Offsite tape storage
 - DR vendor
- Completion - June 2009



Unified Storage Services

- Underway, with bid being constructed
- Value
 - Lower Storage costs per unit, translating to eventual rate reductions
 - Tiered Storage Levels – Customer Choice
 - Simplified operation associated with tape and on-board storage reductions
- Two Paths
 - Utilize Refresh and Growth authority to move away from manual tapes and on-board storage
 - Solutions Based Bid
- Completion
 - Open System Tiers 3 and 4 – Feb 2008
 - Eliminate 750,000 Tapes – August 2009
 - Remote Management – June 2010



Non-Mainframe DR

- Beginning FSR development
- Value
 - All DTS environments will have either in-house or vended DR solutions
 - Customer recovery plans are simplified
 - Platform approach to simplify complexity of operations
- FSR Submittal – July, 2008



Remotely Manageable Environment

- Underway, with Command Centers to be consolidated in January, 2008
- Value
 - Ability to staff at <20 PYs at new facility
 - Ability to maintain operation of Data Center environments in case of a Disaster
 - Improved recovery response to operational outages
- Completion – December 2009



Relocated Cannery

- In final approval phases
- Value
 - Consolidated Staff
 - Computing Site in different disaster region
 - “Green” considerations
- Completion – December 2010



High Availability Solutions

- “*Service Continuity regardless of failure type*”
- Immediate
 - Application by Application Basis
 - Email
 - SBCS
 - Individual Customer Requests
- Short-term
 - Interim Private Partnership
- Long-term
 - Statewide Enterprise Architecture



What Value does this add?

- Failsafe Departmental Application Solution housing
- Reduction of Inhibitors allowing lower costs per service unit
- Faster response to outages
- Model for Infrastructure Management

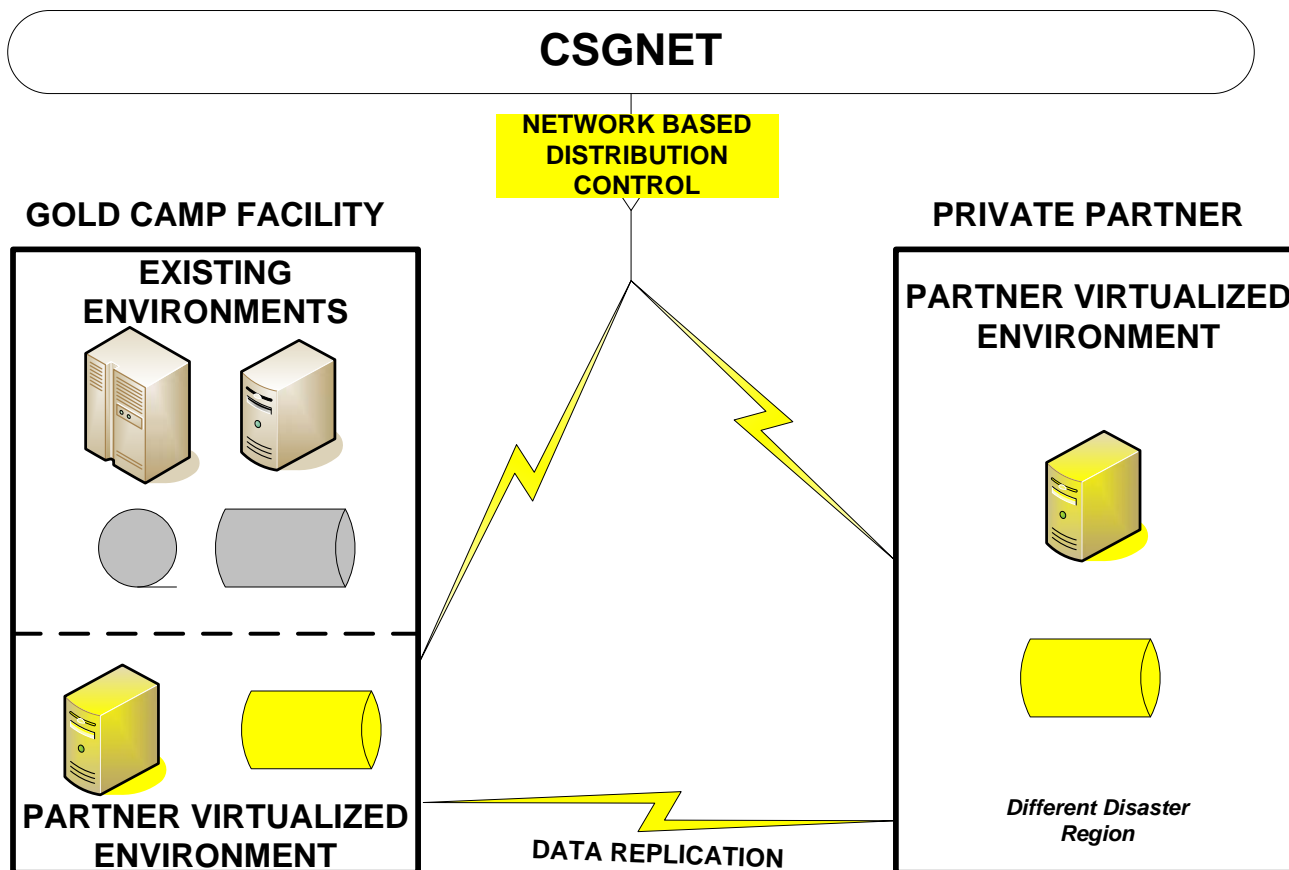
Department of Technology Services



Interim Private Partnership for High-Availability Applications



Conceptual Solution





Benefits

- Provides OR and DR capability in a single solution
- Scalable to meet customer requirements
- Improved timeframes for meeting today's demands for high availability
- Simplify complexity of service restoration
- Customer recovery plans are simplified
- In line with DTS 2011 futures
 - Load Balancing at the network level (site independence)
 - Switchable network between computing campuses



Customer Involvement

- Initial Workgroup of DTS Customer Council members
- Results
 - Limit to DTS managed service offerings
 - Agreement that High Availability includes both OR and DR
 - High Availability is not just 7x24 or web, its normal business hour applications as well
 - Everyone wants it, but costs could prohibit making the necessary investments
 - “Traditional dedicated server to an application barriers”
- Next Steps
 - Send survey to larger base of customers (volunteers?) to identify target hosting/application patterns and determine scope of customer interest
 - Conduct RFO to obtain cost estimates
 - Shared Virtualized Server Environment(s)
 - Shared Virtualized Storage Environment
 - Bring RFO results back to customers to see if service will be utilized